

# Capital Planning Committee Meeting CS-272 Capital Improvement Program

Update February 25, 2020

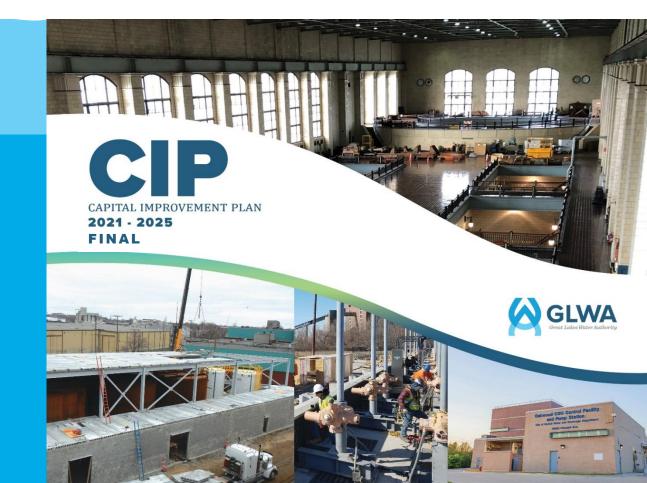
Suzanne Coffey, Chief Planning Officer, Donal Barron, AECOM PM

#### **CIP Delivery Project**

- Project Overview
- Progress Summary
- Cost and Schedule Update
- Questions



CIP Delivery Project Overview



#### What is the Capital Program Delivery Project?

- Four-year contract with a consultant for Program Management services
- Deliver a new and "best-in-class" processes for execution of GLWA's Capital Improvement Program
- Recommend and assist in implementation of technology improvements to support the program
- Provide resources that will support GLWA enterprise-wide in the successful execution of the 5-year CIP
- Give an independent look at the current CIP, including the need for added advanced planning for highly complex projects

#### What We Are Trying to Accomplish

#### Increase...

- annual throughput of the CIP
- accuracy of project cost estimating
- accuracy of cash flow forecasting
- competitiveness of construction bids through improved solicitation scopes

#### Improve...

- contract change management processes (change orders) in both construction and professional services
- performance of project scheduling

The goal is at the end of the contract for the consultant to leave GLWA with the tools and resources needed to manage a best-in-class CIP without their support.

#### What Can We Expect to be Different?

- Improved and streamlined business processes
- New technology solutions which bring key metrics
- New and better reporting
- Changes to project packaging, delivery methods and sequencing
- Possible organizational structure changes for those delivering the CIP

- Possible classification skill-set changes
- Infusion of projects with focus on energy optimization and sustainable practices
- Improved overall execution of the CIP



#### **Task Overview**

**◆ CS-272: Capital Improvement Program Delivery**Contract Summary

- ◆ Task 1CIP Business Process Improvements
- ◆ Task 2
  CIP Delivery / SOP Development
- ◆ Task 3CIP Delivery Resource Evaluation
- ◆ Task 4 PMIS Selection & Implementation
- ◆ Task 5
  Project Controls & Reporting Support

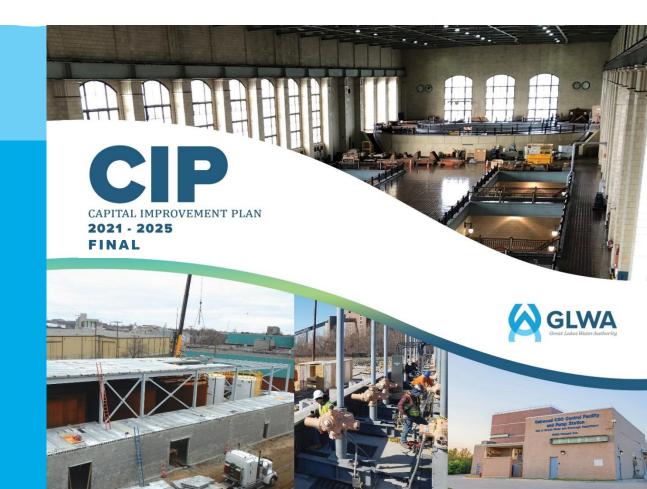
- **◆ Task 6**CIP Validation
- ◆ Task 7 Engineering & Construction Staff Augmentation
- Task 8
   Advanced Facilities Planning
- ◆ Task 9
  Staff Augmentation Other than Construction or Engineering
- ◆ Task 10 Enterprise-wide Energy Optimization and Sustainability Planning





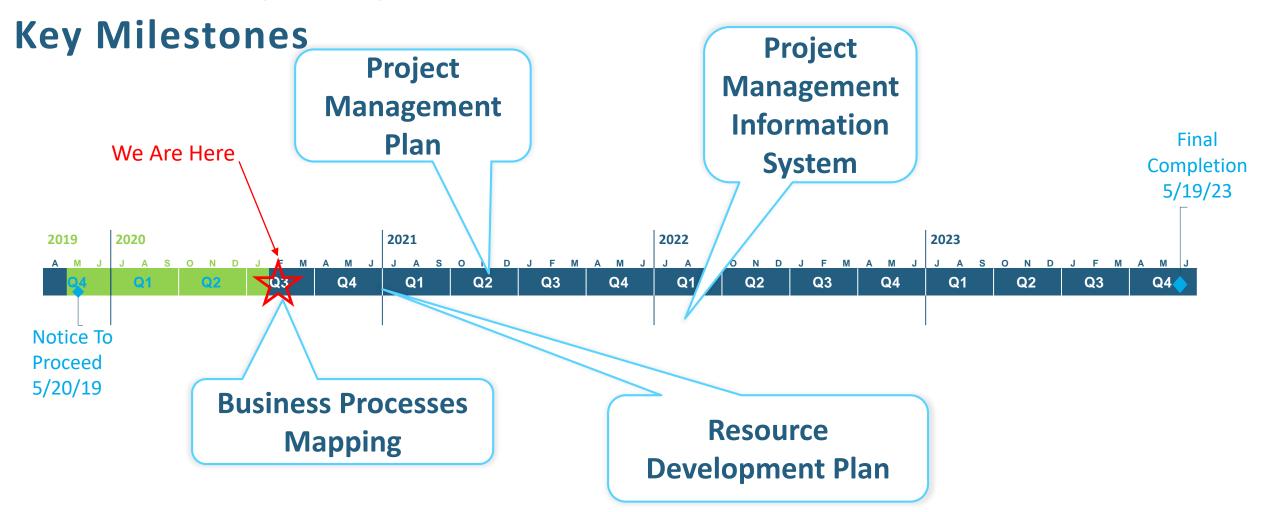


CIP Delivery Project Progress Summary



#### CIP Delivery Project (CS-272) – Update





#### Tasks 1 through 4 Strategy

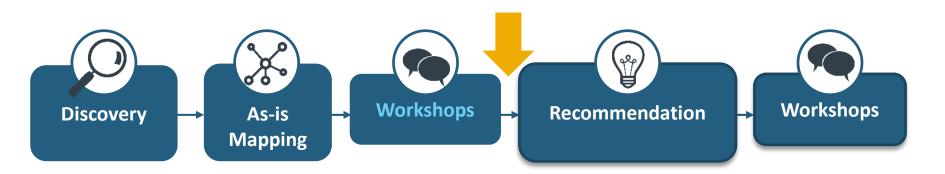




**PMIS = Project Management Information Systems** 



#### Task 01 – Business Process Improvement Phases

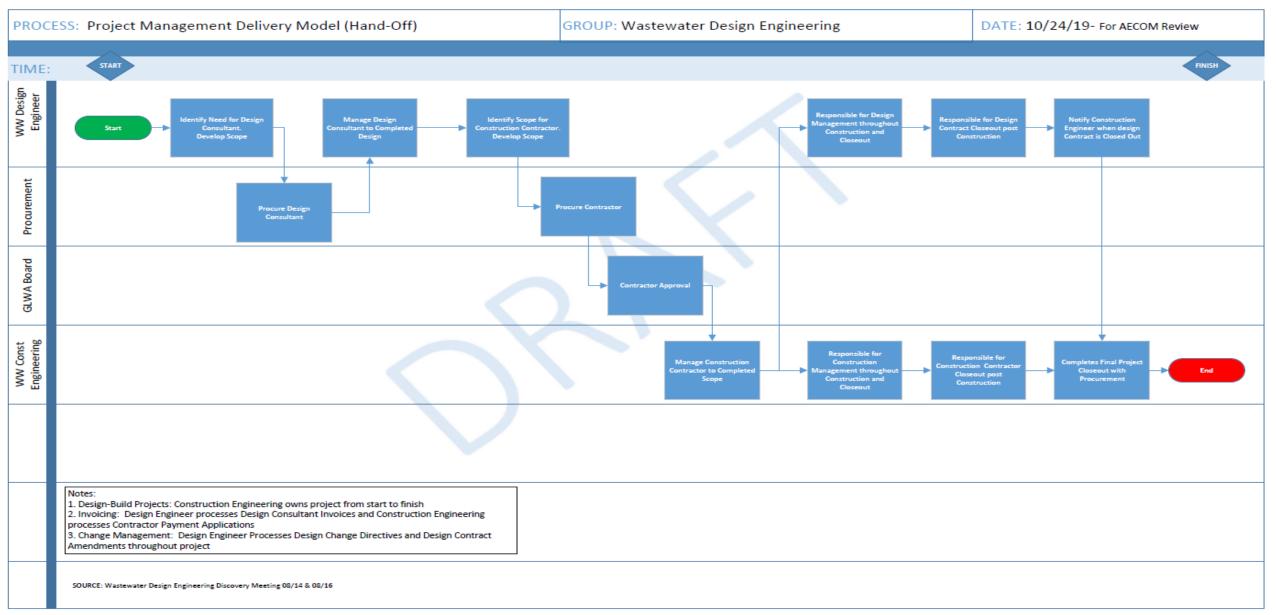


#### **Recommendation:**

- Identify Areas for Workflow Improvement and Efficiencies
  - Sequencing
  - Technology
  - Formalizing
  - Documenting Expectation
- Present Recommendations- Enhanced and New (Workshop)
- Include Multiple Groups and Functions (Workshop)



#### **BUSINESS PROCESS WORKFLOW**



BPW TEMPLATE CS-272 CIP PROGRAM DELIVERY



#### What Have We Learned...Who Have We Talked To?



195

**CIP Team Members Engaged** 



21

**GLWA Business Areas Engaged** 

to capture CIP Delivery today and where we want to go.

across Wastewater, Water, Field Services, Planning, Finance, and Administration & Compliance



**71** 

**Documented Workshops/Discussions** 

with CIP Team Members and Leadership



60

**Process Maps** 

that capture CIP Delivery processes as they are today.



112

**Survey Responses** 

across all CIP Delivery Team Members.



5

**Focus Groups** 

Team Members engage in structured activities about CIP Delivery

#### Weaving CIP Team Member Input at Different Levels





CIP Leadership Team
Leadership Vision setting
Wembers:
with Guiding Principles, 1:1
Conversations

All CIP Team
Members:

Where are we at with
CIP Delivery today?

Members:
Where are we at with
CIP Delivery today?
CIP Team Member
Wide: As-Is process
documentation, Focus
Groups

CIP Change Leaders
Cross-functional team
as advocates and
communicators of
lasting change

Communications
What is happening
with CIP Delivery?
Communicated across
channels – digital
displays, newsletters,
etc

**Townhall**What is changing with CIP Delivery?



#### Vision/Guiding Principles

- **Balanced Priorities** 
  - Demonstrate financial stewardship to our member partners by **balancing** financial, operational, and capital **priorities**.
- **Cross-Functional Collaboration**Work is optimized through effective cross-functional collaboration.
- Empowerment + Accountability

  Everyone is empowered to create GLWA's success, and everyone is accountable for their commitments
- Scope Definition
  Capital Improvement Plan projects are clearly defined, refined, and informed by data-driven decisions.
- Communication + Transparency
  Project status transparency communicates critical information to the team, for awareness and proactive management.

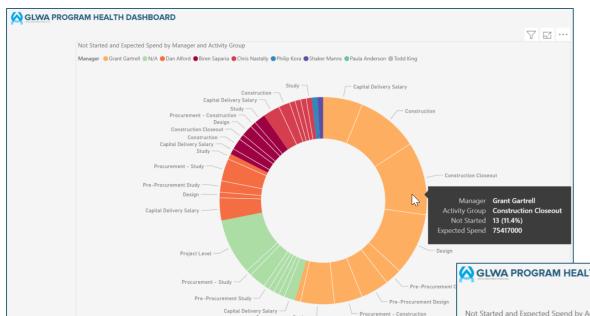


#### Task 04 - Information Technology Integration

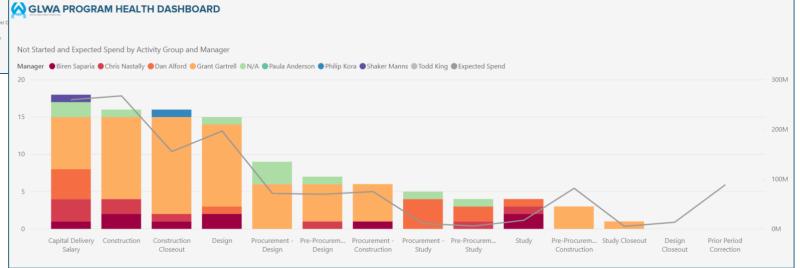
- What have we learned...who have we talked to?
  - PMIS Data Gathering
    - IT, Procurement, Water and Wastewater Engineering and CIP Team Members attended meetings to establish baseline requirements for:
      - Software procurement approach
      - Standard practices and templates for procurement documents
      - Core functional requirements for the future system
- Where are we going?
  - Project Execution Functional Requirements Gathering
    - 3 workshops scheduled for Water, Wastewater, Procurement, Finance and IT to further define functional requirements
  - RFP Development and Software Procurement



#### Task 04 – Short-Term Tools and Analysis



- Utilizing Existing Data Sources (Integrated Master Schedule, Construction Work In Progress Report, etc.)
- Utilizing PowerBI to Identify CIP Program Health



#### Inputs for Success



## **Industry Best Practice/PMP**

#### As-is Process Workflow

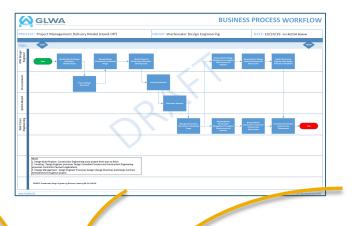


- Balanced Priorities
   Demonstrate financial stewardship to our member partners by balancing financial operational, and capital priorities.

   Cross-Functional Collaboration
- Work is optimized through effective cross-functional collaboration.
- Empowerment + Accountability
  Everyone is empowered to create GLWA's success, and everyone is accountable for their commitments
- Scope Definition

  Capital Improvement Plan projects are clearly defined, refined, and informed by data driven decisions.
- Communication + Transparency
  Project status transparency communicates critical information to the team, for awareness and proactive management.





### **GLWA CIP Delivery Structure**

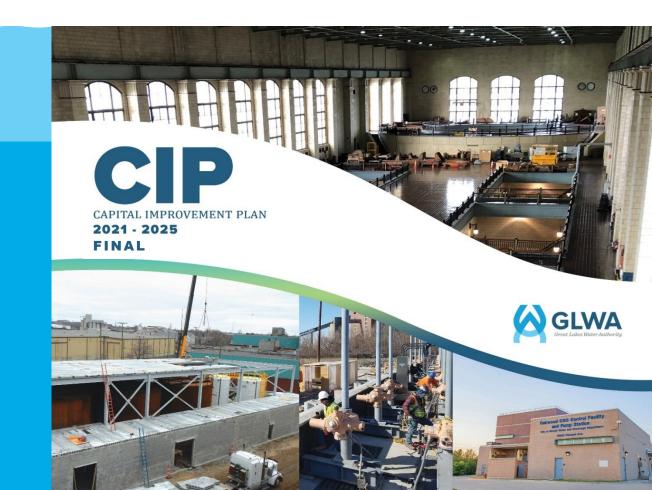


Improved CIP Business Processes





CIP Delivery Project Cost and Schedule Update



# Update

- **◆ CS-272: Capital Improvement Program Delivery**Contract Summary
- **◆ 10** Interrelated CIP Tasks
- Goal to improve CIP Execution
- **\$54,934,034.00**
- Duration 4 Years
- **♦ Contract Executed -17 May 2019**





#### **CS-272:** Capital Improvement Program Delivery

#### **GLWA FISCAL YEAR**





#### **Key Progress**

- Completed Mapping of Existing Business Processes – Presented Findings to GLWA
- Recommended CIP Project Management Delivery Model to GLWA
- Presented Outline and Structure of Program Management Plan
- Established Change Leadership and Focus Groups
- Presented Proposed Improvements to Standard Work Breakdown Structure (WBS)

- Identified 10 CIP Projects and Completed Cost Estimation / Validation
- Completed Long Term Control Plan RFP
- Prepared Scope of Work for WRRF Pilot Research Plant
- Provided Engineering Inspection and CADD Resources as Requested



#### **Budget/Schedule**

Contract Duration 1,461 Calendar Days 257 Calendar Days since NTP (as of January 31, 2020)

17.6 % Time Elapsed

**Total** 

\$54,934,034

**Accrued to Date** 

**\$4,303,659 = 7.8%** 





#### Task 1: CIP Business Process Improvements

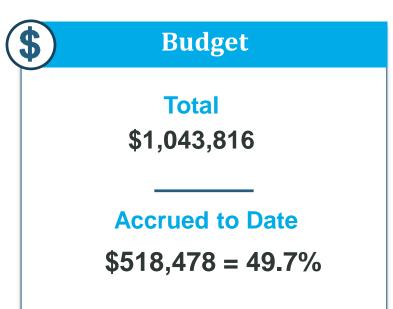
#### Lump Sum Task

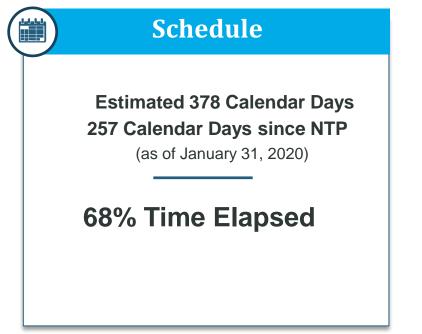
#### **GLWA FISCAL YEAR**



#### Key Progress

- Completed Mapping of Existing Business Processes
- Presented Findings to GLWA Leadership at Workshop on January 30, 2020









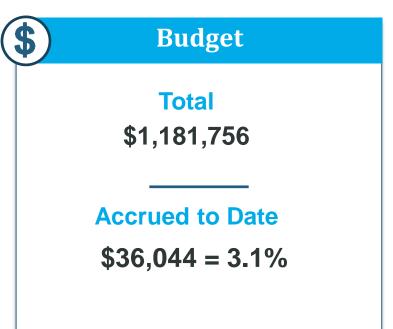
# Task 2: CIP Delivery Standard Operating Procedure (SOP) Development Lump Sum Task

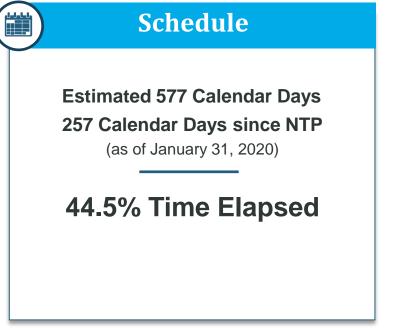
#### **GLWA FISCAL YEAR**



#### Key Progress

- Documented Findings from Business Process Mapping
- Presented Recommended Project CIP Delivery Model to GLWA
- Presented Outline and Description of the Program Management Plan to GLWA









#### **Program Management Plan - Document Development**

	Consultant	
PMP Section Titles	Author	Client SME
PMP Overview		
PMP 01 – Program Description		
PMP 02 – Organization and Governance		
PMP 03 – Communications Management		
PMP 04 – Document Management		
PMP 05 – Schedule & Budget Management		
PMP 06 – Change Management		
PMP 07 – Quality Management		
PMP 08 – Risk Management		
PMP 09 – Engineering & Design Management		
PMP 10 – Procurement & Contracts Management		
PMP 11 – Permitting & Regulatory Management		
PMP 12 – Environmental, Health and Safety		
PMP 13 – Public Information & Stakeholder Management		
PMP 14 – Construction Management		
Potential Other Chapters		
PMP XX – Program Design Manual		
PMP XX – Sustainability Management		
PMP XX – Property & Easement Acquisition		

#### 6.2 Change Order Process

- 6.2.1 Change Request
  - 6.2.1.1 Description and Justification of Change
  - 6.2.1.2 Analysis and Evaluation of CR
  - 6.2.1.3 Negotiation of the Change
  - 6.2.1.4 Change Approval
  - 6.2.1.5 Notification of Change Determination
  - 6.2.1.6 Amendment to the Contract
- 6.2.2 Work Change Directive
  - 6.2.2.1 Description of Work Change Directive
  - 6.2.2.2 Analysis and Evaluation of WCD
  - 6.2.2.3 Determination to Proceed
  - 6.2.2.4 Request for Change Proposal
  - 6.2.2.5 Analysis and Evaluation of RCP and Completion of the WCD Process
- 6.2.3 Project Scope Changes





#### Task 3: CIP Delivery Resource Evaluation

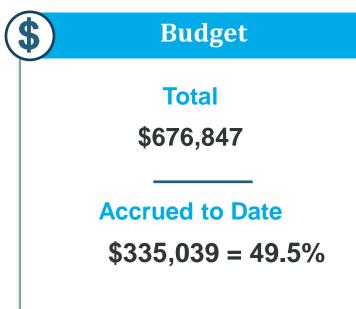
Lump Sum Task

#### **GLWA FISCAL YEAR**



#### Key Progress

- Prepared FAQ's and Newsletter for Program Communications
- Conducted Leadership Workshop to Establish Vision and Guiding Principles
- Established Change Leadership and Focus Group Forums
- Identified Themes from Change Leadership Forums to Improve CIP Delivery



# Estimated 1,461 Calendar Days 257 Calendar Days since NTP

17.6 % Time Elapsed

(as of January 31, 2020)





#### Task 3: CIP Delivery Resource Evaluation

Initial Program Communications Plan



#### **Digital Messaging**

To Be Displayed on GLWA internal messaging monitors



#### Newsletter and FAQ's

To Be Shared via One Water Connect and Email





# Task 4: Project Management Information System (PMIS) Selection & Implementation

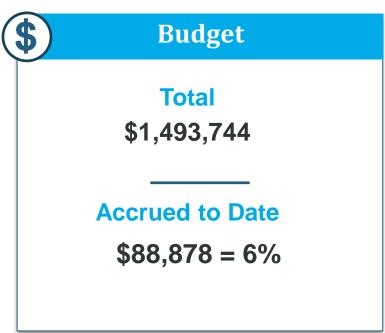
Lump Sum Task

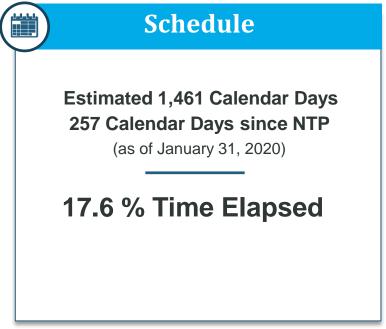
#### **GLWA FISCAL YEAR**



#### Key Progress

- Data Gathering
- Met with IT, Procurement, Engineering, and CIP Team Members to Establish Baseline Requirements for:
  - Software Procurement Approach
  - Standard Practices and Templates for Procurement Documents
  - Core Functional Requirements for the Future PMIS



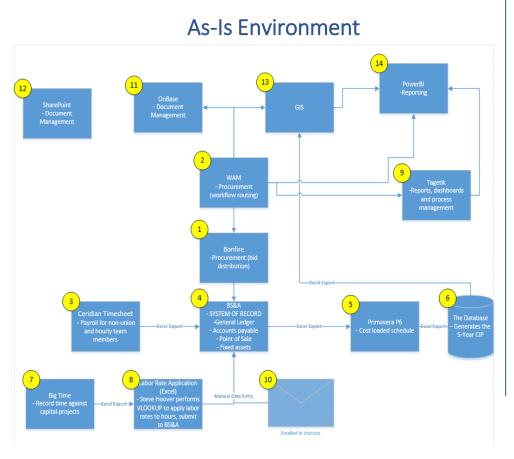


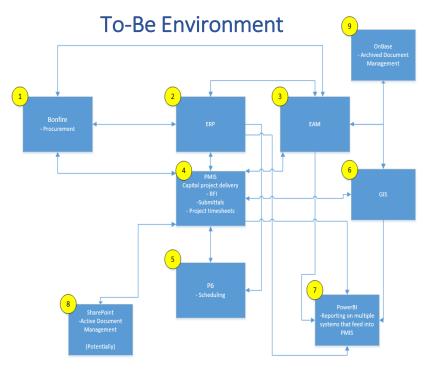




#### **GLWA As-Is and To-Be Architecture Diagrams**

- Define the systems and tools currently supporting CIP delivery
- Identify the systems
   that are anticipated to
   support CIP delivery
   after major system
   implementation efforts
   are complete









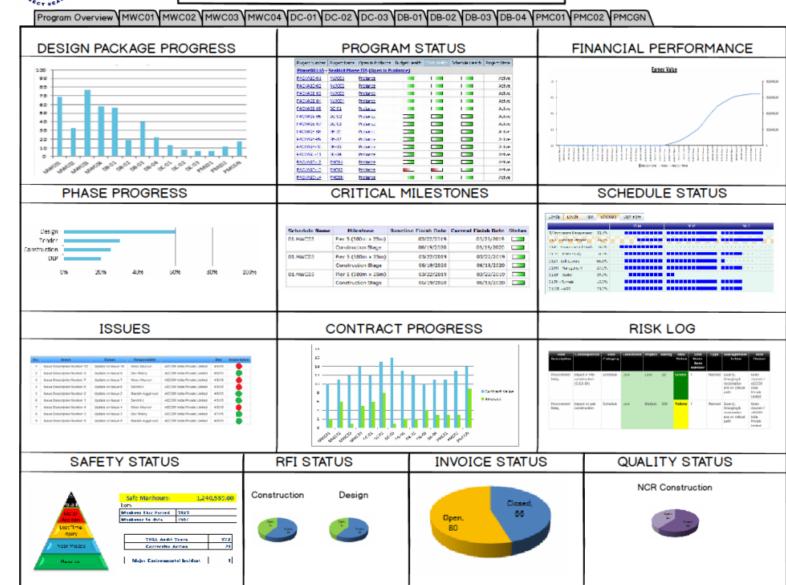
# **GLWA Internal Dashboard Example Structures**

- Organizational transparency on capital program project and process data
- "Ball in court" workflows create traceability and accountability for functional processes
- Consolidation of data sources reduces duplication of effort, data discrepancies and increases reporting capabilities
- Standardization and facilitation of functional processes provides consistency across the program



Project Seabird Phase IIA EXECUTIVE REPORT



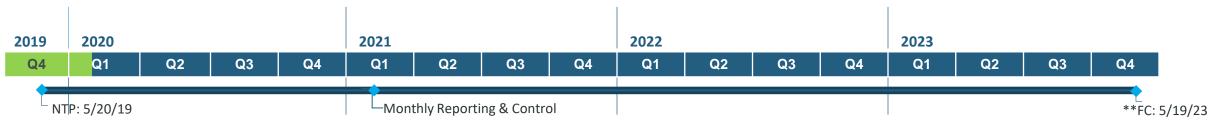




#### Task 5: Project Controls & Reporting Support

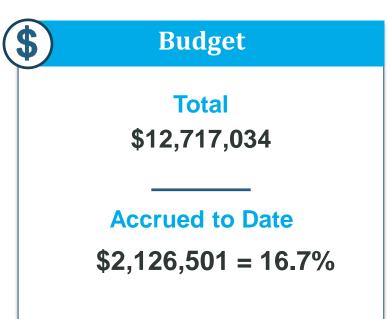
Time & Materials

#### **GLWA FISCAL YEAR**



#### **Key Progress**

- Developing a Database and Workflow for GLWA PM Review and Approval of Time and Material Charges for Tasks 07 & 09
- Proposed Changes and Enhancement to IMS for Integration with Proposed Dash-Board
- Preparing a Pilot Test of Proposed WBS for the IMS





#### **Schedule**

**Estimated 1,461 Calendar Days** 257 Calendar Days since NTP

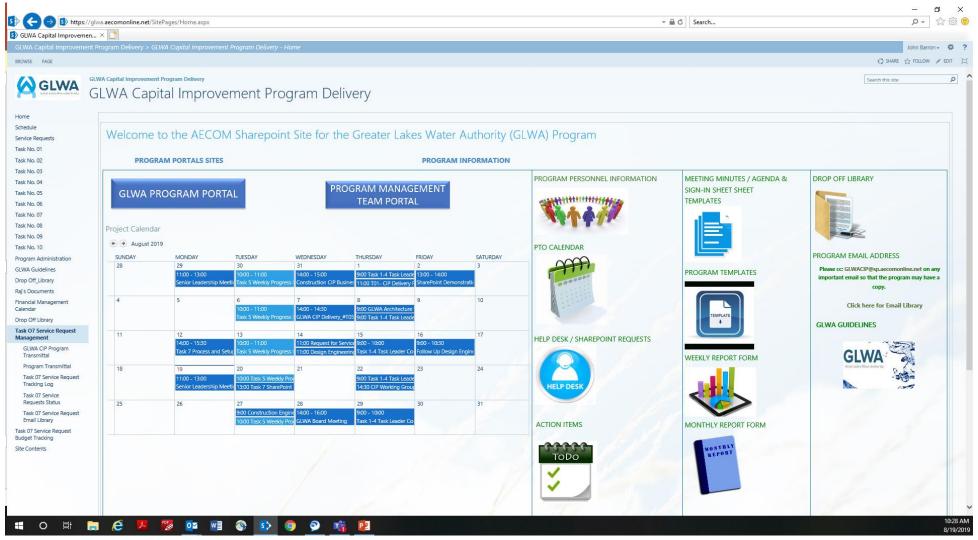
(as of January 31, 2020)

17.6 % Time Elapsed



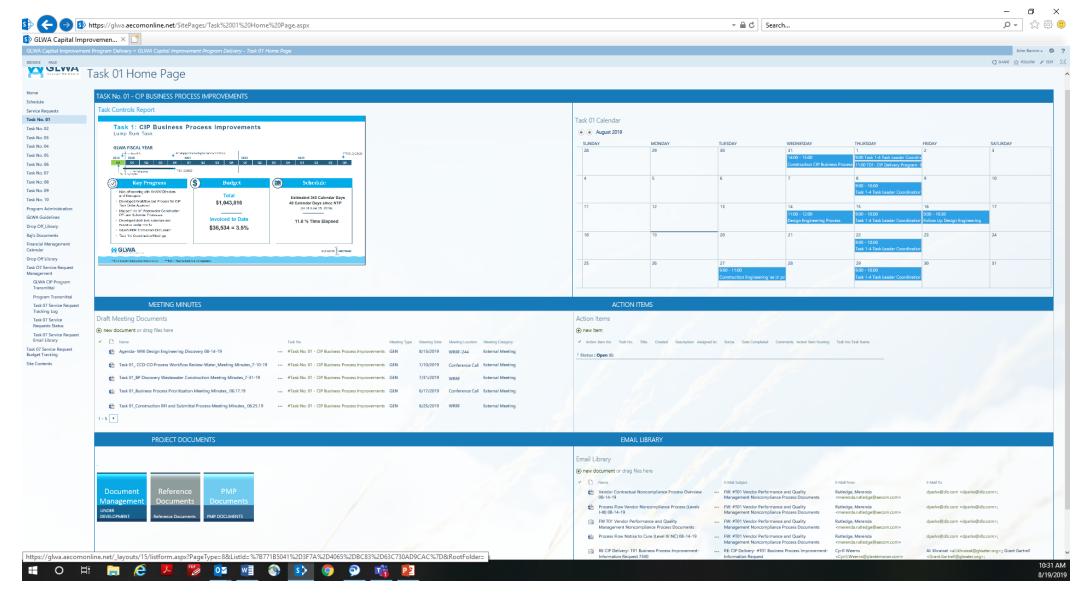


#### **Project SharePoint Site Framework**



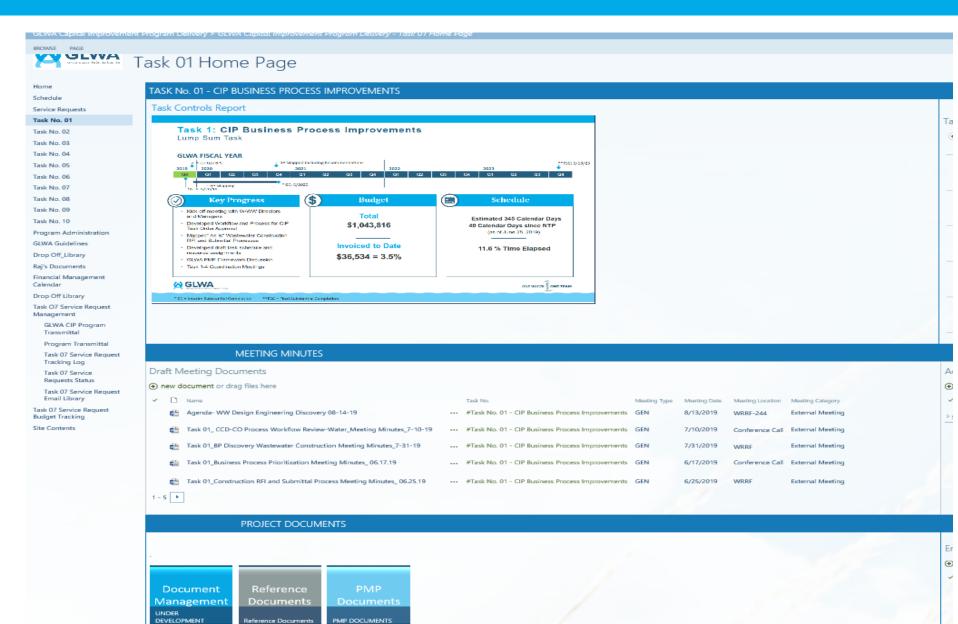
















#### Task 6: CIP Validation

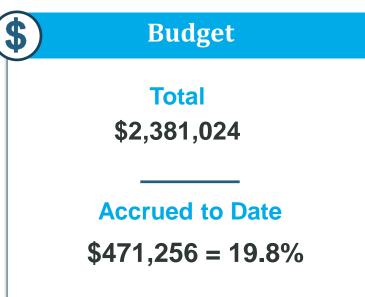
#### Lump Sum Task

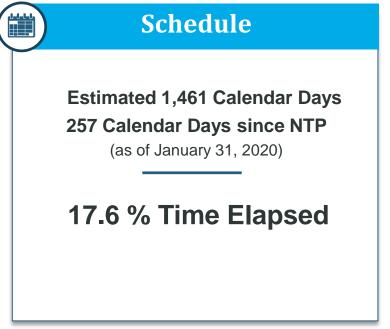
#### **GLWA FISCAL YEAR**



#### Key Progress

- Reviewed BCEs on CIP Projects for Validation Effort – Water and Wastewater
- Conducted 2-day Workshop
- Identified 10 CIP Projects And Completed Cost Estimation / Validation
- Conducted Workshop to Review First Years Work and Outline Plan for Year 2









#### Project Pairing Methodology - Review Projects/Items in Groups

- CIP Project Review BCE's, Needs Assessment, Water Master Plan, Grouped by Operating Unit or Plant
- 2. Set up Comparison Matrix
  - Compare each project to all other projects

	Α	В	С	D	E
1		Project A	Project B	Project C	Project D
2	Project A				
3	Project B				
4	Project C				
5	Project D				

Grey out ½ of matrix, not doing the same comparison twice

	Α	В	С	D	E
1		Project A	Project B	Project C	Project D
2	Project A				
3	Project B				
4	Project C				
5	Project D				





#### **Project Pairing Methodology – Systems Approach**

	211007 - Replacement of Bar Racks at Pump	Clarifier Scum Removal	212007 - Rehabilitation of the Secondary	Rehabilitation of Intermediate Lift	Improvements to Sludge Feed Pumps at	216006 - Assessment and Rehabilitation of WRFF yard piping and underground utilities
211005 - Pump Station No. 2 Improvements Phase II at Wastewater Treatment Plant (WRRF)	211007	211005	211005	211005	211005	211005
211007 - Replacement of Bar Racks at Pump Station No.2		211007	211007	211007	211007	211007
211009 - Rehabilitation of the Circular Primary Clarifier Scum Removal System			211009	212008	213006	211009
212007 - Rehabilitation of the Secondary Clarifiers				212008	213006	212007
212008 - WRRF Rehabilitation of Intermediate Lift Pumps (ILPs)					213006	212008
213006 - Improvements to Sludge Feed Pumps at Dewatering Facilities						213006
216006 - Assessment and Rehabilitation of WRFF yard piping and underground utilities						

	Count of Cells	Rank	IS THE MATRIX FULLY POPULATED? YES		
211005 - Pump Station No. 2 Improvements Phase II at Wastewater Treatment	1			_	
Plant (WRRF)		5	2	•	Water
211007 - Replacement of Bar Racks at Pump Station No.2	1	6	1		
211009 - Rehabilitation of the Circular Primary Clarifier Scum Removal System	1	2	5	•	Future Planned
212007 - Rehabilitation of the Secondary Clarifiers	1	1	6		
212008 - WRRF Rehabilitation of Intermediate Lift Pumps (ILPs)	]	3	4	•	25 Projects
213006 - Improvements to Sludge Feed Pumps at Dewatering Facilities	1	4	3		, ,
216006 - Assessment and Rehabilitation of WRFF yard piping and underground	1				
utilitiae	I	n	7		





#### Task 7 & 9: Staff Augmentation

#### Time & Materials

#### **GLWA FISCAL YEAR**





- Completed Long Term Control Plan **RFP**
- Provided Recommendations for D/B 150 Raw Water Intake Project
- Submitted Scope of Work for WRRF Pilot Research Plant
- Provided Engineering, Inspection, and CADD Resources as Requested



#### Budget

**Total Task 7** \$31,459,764

**Accrued to Date** 

**\$650,545 = 2.1%** 

**Total Task 9** 

\$1,534,586

**Accrued to Date** 

**\$6,852** = **0.5**%



#### Schedule

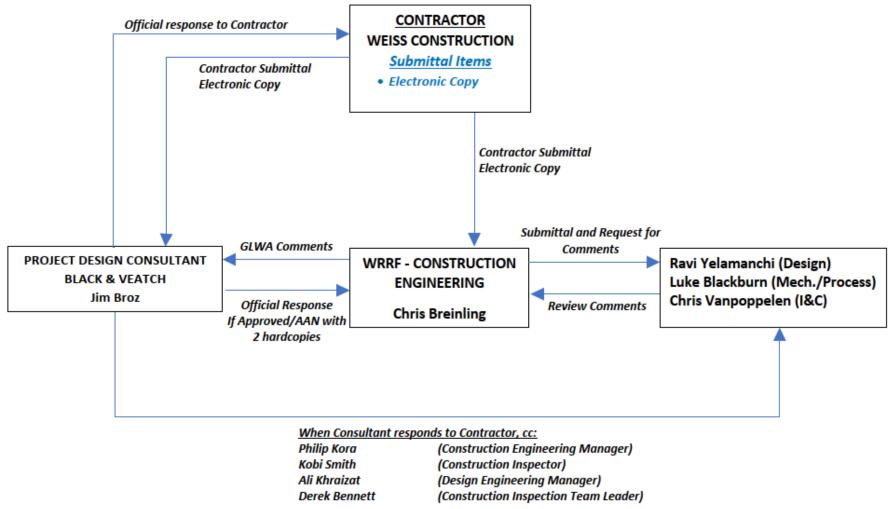
**Estimated 1,461 Calendar Days** 257 Calendar Days since NTP (as of January 31, 2020)

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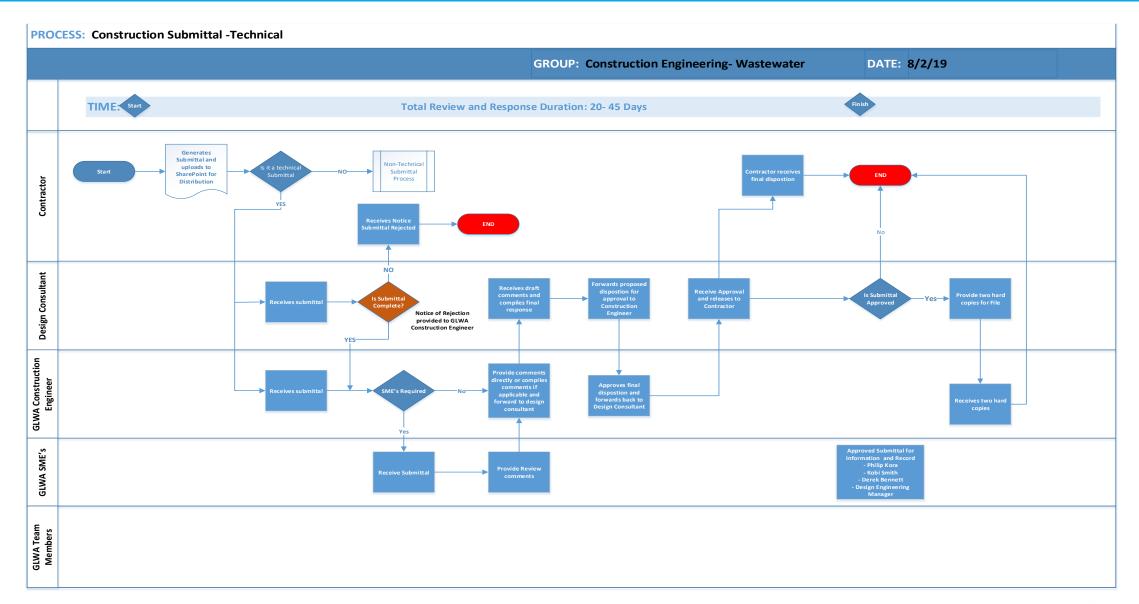


# **Current WW Document Process – CIP 1803817 Leaf CSO HVAC Improvements**









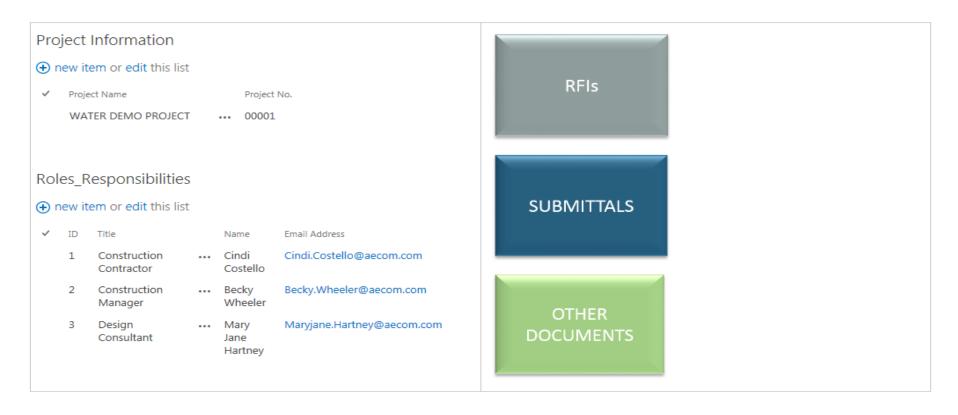




#### Interim RFI/Document Management Solution - Project Set-up



#### CIP Project No. 000000 - DEMONSTRATION WASTWATER PROJECT







#### Task 8: Advanced Facilities Planning (AFP)

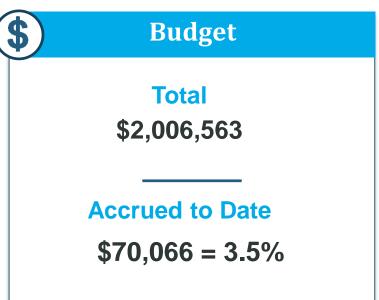
Lump Sum Task

#### **GLWA FISCAL YEAR**



#### Key Progress

 Developing a Proposal to Prepare a Basis of Design (BOD) Report for the Oakwood District Intercommunity Relief Sewer



# Estimated 1,461 Calendar Days 257 Calendar Days since NTP (as of January 31, 2020) 17.6 % Time Elapsed





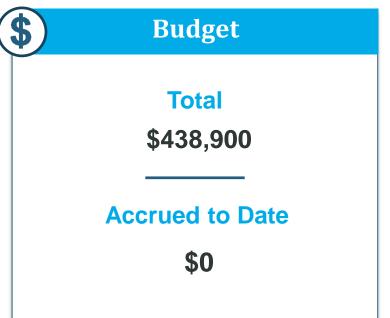
## Task 10: Enterprise-wide Energy Optimization and Sustainability Planning Lump Sum Task

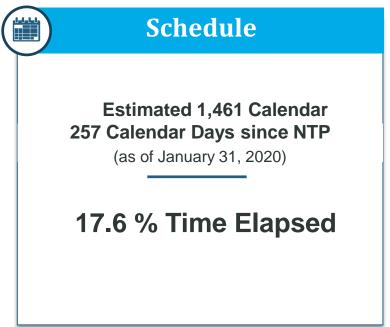
#### **GLWA FISCAL YEAR**



#### Key Progress

 Nothing significant to report (NSTR)











# Questions

